

## Financial Efficacy of Clinical Assessment: Rational Guidelines and Issues for Future Research



Gary Groth-Marnat

*Curtin University of Technology*

Whereas the financial efficacy of assessment has been well documented in industrial/organizational settings, there is no comparable literature within the field of clinical assessment. This has become a significant issue due to the increasing cost-consciousness of managed health care organizations. A rational means of increasing the financial efficacy of assessment is outlined, which includes the following: (a) focus on domains most relevant to treatment planning and outcome; (b) use formal assessment for risk management; (c) target problems most likely to result in cost savings (i.e., dissociation, somatization, panic); (d) increase the use of computer-assisted assessment; (e) use time-efficient instruments; (f) more closely link assessment, feedback, and therapy; and (g) integrate treatment planning, monitoring progress, and evaluating outcome. Issues and strategies for developing a research program include clearly defining what should be considered a cost, enumerating possible outcome variables, optimal follow-up time frame, selection of instruments, and the function of assessment.

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For at least three decades clinical practitioners and researchers have asked whether or not assessment was worth the time and money. This question has become increasingly timely with the need to integrate assessment into highly cost-conscious managed health care structures. Despite this apparent need, little or no research has been conducted investigating the relative cost-effectiveness of clinical assessment (Ambrose, 1997). In contrast, psychologists in industrial/organizational settings have far more carefully evaluated the financial efficacy of selection procedures (see Burke & Frederick, 1986; Hoffman & Thornton, 1997; Schmidt, Hunter, McKenzie, & Muldrow, 1979).

Originally, formal psychological tests were developed to partially counter both the extended length of time involved in clinical interviews and the frequently low reliability

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Correspondence concerning this article should be addressed to Gary Groth-Marnat, Ph.D., School of Psychology, Curtin University, G.P.O. Box U1987, Perth, WA 6001 Australia.

and validity of information derived from interviews, especially when unstructured (Arvey & Campion, 1982; Ulrich & Trumbo, 1965; Wagner, 1949). Extensive research has continued to support these earlier findings both related to the low accuracy of judgment associated with clinical interviews (John & Robins, 1994; Pogge, Stokes, Frank, Wong, & Harvey, 1997; Shiffman et al., 1997; Widom & Morris, 1997), as well as the ability of testing, particularly multimethod forms of assessment, to correct for these inaccuracies (i.e., Fennig, Craig, Tanenberg-Karant, & Bromet, 1994; Perry, 1992). Thus, more formal tests of clinical functioning should ideally realize cost savings through being more efficient and accurate than interviews. This accuracy should then allow for better treatment planning decisions, which may result in faster, optimal outcomes.

The timeliness of evaluating the cost-effectiveness of clinical assessment is underscored by surveying its history. During the early beginnings of clinical psychology, testing was nearly synonymous with clinical psychology. However, there has been a progressive decrease in the extent to which psychologists conduct assessment. Lubin and his colleagues (Lubin, Larsen, & Matarazzo, 1984; Lubin, Larsen, Matarazzo, & Seever, 1985) noted that in 1959 fully 44% of a professional psychologist's time was spent conducting assessment. By 1969 this had dropped to 28%, and by 1982 it had dropped to 22%. In the early 1990s Watkins, Campbell, Nieberding, and Hallmark (1995) documented that clinical psychologists spent 12% of their time conducting personality assessment and another 8% assessing cognitive abilities. More recently Norcross, Karg, and Prochaska (1997) noted that, on average, in 1986 17% of a psychologist's time was spent conducting assessment, but by 1995 this percentage had dropped to 10%. This reduction has been similarly noted in testing related specifically to psychotherapy. Whereas in the '60s and '70s 72% of clinical psychologists used testing at some stage in client treatment (Hinkle, Nelson, & Miller, 1968; Wade & Baker, 1977), by the early '90s only 39% used treatment-related testing and only 10% ever administered full batteries (Keddy & Piotrowski, 1992).

This decrease in assessment is in part due to the natural and positive expansion of professional psychology to include such diverse roles as psychotherapy, administration, consultation, expert testimony, organizational development, and evaluation research. Thus, there is simply less time available to spend on testing. More problematic issues have included criticisms of the reliability and validity of some instruments, too much focus on negative aspects of client behavior resulting in client resistance, lack of treatment utility, and overutilization of full test batteries, especially in inpatient settings. This has resulted in many, if not most, managed health care organizations' perception of testing as neither useful in diagnosis and treatment planning nor cost-effective in the overall treatment process (Eisman et al., 1998; Griffith, 1997). Their response has been to tightly regulate and thereby reduce the extent professional psychologists are reimbursed (Janda, 1998, p. 373; Piotrowski in this series; Piotrowski, Belter, & Keller, 1998; Schlosser, 1995).

In contrast to the dearth of research on the financial efficacy of clinical assessment, there is an extensive literature accompanying intense debate on the financial efficacy of psychotherapy. Most authors have consistently supported the finding that psychotherapy is financially efficacious especially in preventing the overutilization of more costly medical-surgical procedures (Austad & Berman, 1991; Cummings, 1985, 1991; Mumford, Schlesinger, Glass, Patrick, & Cuedon, 1984). Cost savings in the general health care area have been particularly well documented for interventions that help prepare patients for anxiety-provoking surgical procedures, treatment of patients who are somatizing psychosocial distress, and rehabilitation of chronic pain patients (Groth-Marnat & Edkins, 1995). Although the rationale for psychological intervention in prevention often has been clearly articulated, to date research has not been as successful in documenting such potential cost savings (Groth-Marnat, Edkins, & Schumaker, 1995). With appropriate cautions,

the aforementioned cost-effectiveness literature often has been used successfully to argue for the inclusion of psychological interventions. Such arguments have often indicated that it is more costly not to have mental health benefits than to have them.

The aforementioned factors and trends indicate that there will be increasing pressure from third party payors for psychological assessment to demonstrate its financial efficacy (see review in Meyer et al., 1998). This will involve assessment that can quickly identify client difficulties, develop optimal treatment recommendations, and demonstrate the effectiveness of these recommendations when implemented. This may involve using assessment to evaluate the effectiveness of interventions by individual clinicians. Indeed, one of the ways in which managed health care organizations will decide who will be given continued reimbursement is through providers' demonstration of superior outcomes.

### Guidelines for Financial Efficacy in Clinical Assessment

Even though there are few empirically derived guidelines for cost-effectiveness in assessment, there are a number of rational strategies that can potentially guide such efforts. Each of these is currently being used to a certain extent but it is hoped by highlighting and listing them practitioners and researchers will be encouraged to focus on and utilize them more frequently.

1. *Focus on domains most relevant for treatment planning and outcomes.* It would seem that a clear rational strategy for achieving financial efficacy using assessment is to focus primarily on those areas that are most likely to optimize client outcome by tailoring treatment to the specifics of the client (see Maruish, 1994). This means that clinicians should pay particular attention to the referral question along with relevant diagnostic issues and client characteristics (see Figure 1). This goal has become more achievable given recent research. In some cases, optimal outcomes can be achieved based on formal diagnosis (Compas, Haaga,

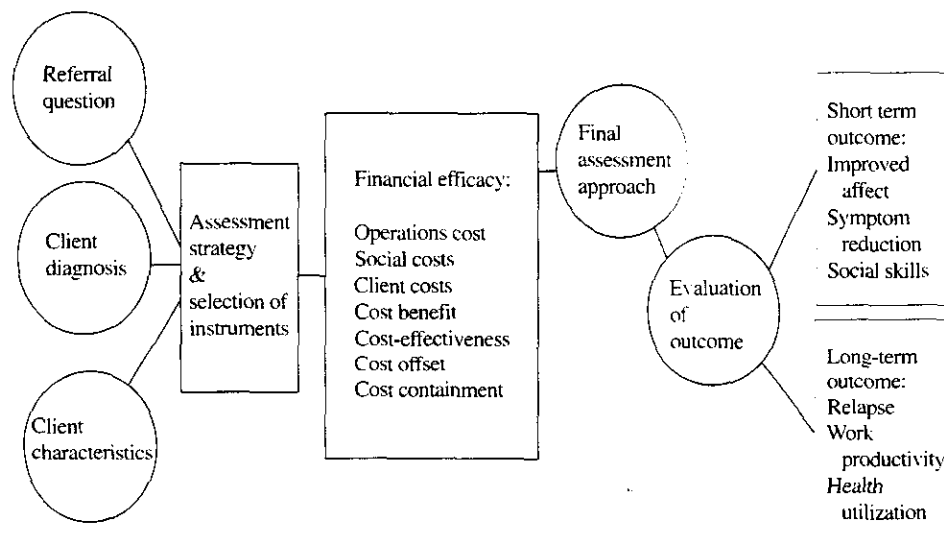


Figure 1. Assessment and financial efficacy model.

Keefe, Leitenberg, & Williams, 1998; DeRubeis & Crits-Christoph, 1998; Kendall, 1998; Task Force, 1995). This is especially true for many of the anxiety disorders where specific, targeted interventions have demonstrated differential treatment outcomes when compared to other techniques (Barlow, 1993; Beck & Zebb, 1994; Steketee, 1994). This clearly suggests that instruments that can increase both the accuracy and time efficiency involved in achieving a DSM-based diagnosis can be a crucial part of cost-effective treatment. However, in many situations formal diagnosis contributes only minimally to optimizing treatment outcome (Beutler, 1989; Beutler & Crago, 1986; Luborsky, Diguier, Luborsky, & McLellan, 1993). In contrast to formal diagnosis, some client characteristics have been associated with treatment outcome (see Beutler & Clarkin, 1990; Harkness & Lilienfeld, 1997). These include level of resistance, external/internal coping style, stages of change, hypnotic responsiveness, and self-efficacy (Beutler 1989; Fisher, Beutler, & Williams, 1999). Recently developed tools that evaluate relevant client variables include the Butcher Treatment Planning Inventory (Ben-Porath, 1997; Butcher, 1998) and Beutler and Williams's (in press) Systematic Treatment Selection software.

2. *Use formal assessment for risk management.* Legal complications are becoming increasingly common given the current litigious social climate. Procedures that can reduce the risk to either the practitioner or the managed care organization have the potential to realize significant cost savings. In some situations (i.e., complex differential diagnosis, danger to self or others), formal assessment can serve to assure that optimal protocols have been utilized. In the past, courts have viewed testing as an outside or second opinion (Schutz, 1982) that has been used to assure potential litigants that appropriate diagnosis and treatment has been done. Thus, practitioners who do not use formal assessment in some situations might be placing themselves (and possibly the managed health care organizations they work with) at greater risk of costly legal procedures and ethical violations.
3. *Target conditions most likely to result in financial efficacy.* Another strategy would be to direct the most extensive assessment procedures toward those conditions that, when correctly assessed, would be most likely to result in cost saving. In particular, somatizing patients are likely to be excessive overutilizers of health care resources. Considerable cost savings have been demonstrated when they are accurately diagnosed and referred for brief, targeted psychosocial interventions (Cummings, 1985, 1991; Groth-Marnat & Edkins, 1995). An assessment of such patients should ideally integrate client variables with treatment planning in such a way as to optimize treatment outcome (see Wickramasekera, 1995). Panic disorder patients are also problematic in that they account for 6% of all primary medical care visits and up to 89% are misdiagnosed for months or years (Freeman, 1991). In addition, accurately identifying dissociative disorders (particularly dissociative identity disorder) often requires considerable diagnostic sophistication and, without such directed efforts, dissociative disorders are likely to go undetected and untreated. This is likely to result in untreated conditions that are likely to result in the patient reemerging in the more costly (and less treatment effective) medical-surgical arena. This is supported in that available research indicates that accurate diagnosis and treatment of dissociative disorders has been found to result in significant cost savings to the health care system (Loewenstein, 1994; Ross & Dua, 1993). In contrast to the previous examples are more straightforward cases (adjustment disorder, subclinical depression, etc.) that may require either no for-

mal assessment or merely a basic level of assessment sufficient to evaluate their progress and track them through the health care system.

4. *Use computer-assisted assessment.* Computerized assessment also is likely to result in greater time (and therefore cost) savings. Specific time savings might be realized through faster test time along with reduced scoring and interpretation involvement for clinicians (Groth-Marnat & Schumaker, 1989). Sophisticated item-branching strategies could also reduce the total number of items a client had to take, thereby maximizing the efficiency of obtaining crucial information. Strategies might include having a client take tests online prior to his or her initial visit with a clinician. In partial support of such procedures, computer-assisted assessment is both well accepted by consumers (French & Beaumont, 1987) and the results are not likely to be significantly different from the same tests using the more traditional paper-pencil formats (Lee, Moreno, & Sympson, 1986; Lukin, Down, Plake, & Kraft, 1985; Watson, Thomas, & Anderson, 1992). However, clinicians need to use appropriate caution when using computer-based narratives in actual practice (Groth-Marnat & Schumaker, 1989; Spielberger & Piotrowski, 1990).
5. *Use time-efficient instruments.* The use of labor-intensive assessment procedures are likely to become perceived as progressively less cost-effective. For example, professional psychology trainees recommend that training in the Rorschach should ideally take two full semesters of course work (Hilsenroth & Handler, 1995), and administration, scoring, and interpretation typically takes 2.5 hours (Ball, Archer, & Imhof, 1994). Similarly, administration, scoring, and interpretation of the Wechsler intelligence scales and the Thematic Apperception Test are also labor-intensive procedures. In contrast, assessment tools that are easy to score and interpret and highly focused on treatment planning, monitoring, and evaluation are likely to become progressively more valued.
6. *More closely link assessment, feedback, and intervention.* During the early years of clinical assessment the results of evaluations often were not shared with the client and used only by the clinician/assessor in efforts to understand the client. In contrast, more efficiency is likely when assessment and treatment are linked through providing the client with test feedback. Available research indicates that face-to-face feedback of assessment results increases client self-esteem, enhances affect, improves client satisfaction, and assists the client to clarify his or her strengths and weaknesses (Finn & Tonsager, 1992; Gass & Brown, 1992). It also diminishes the gap between assessment and treatment, which is an important criterion for demonstrating value to clients/customers. Therapeutic benefits of this feedback are most likely to occur when the feedback comes shortly after the assessment and the clients become active participants in evaluating the accuracy and relevance of the results (Hanson, Claiborn, & Kerr, 1997; Newman & Greenway, 1997; Quirk, Strosahl, Kreilkamp, & Erdberg, 1995).
7. *Integrate treatment planning, monitoring progress, and evaluating outcome.* Even though immediate, collaborative feedback of results has been shown to have therapeutic benefits, assessment ideally should not be something that occurs only at the commencement of intervention. A number of authors have argued for tightening the links between assessment as a prelude to therapy and its role in monitoring progress or evaluating outcome (Clement, 1996; Kazdin, 1994; Marten & Heimberg, 1995). Such a methodology of clinical practice might prove to be not only cost-effective, but is likely to be increasingly required by managed health

care organizations concerned with accountability. Such a methodology would focus on the uniqueness of the client along with simple assessment techniques. These techniques should define goals and establish whether or not these goals are being met at strategic times during the therapeutic process. This would allow for the possibility of combining measures of treatment effectiveness along with measures of cost-effectiveness.

#### Research Issues for Demonstrating the Financial Efficacy of Assessment

The most obvious strategy in evaluating the financial efficacy of assessment would be to compare interventions using assessment with those not using it. For example, would clients receiving a full neuropsychological evaluation as part of their rehabilitation planning benefit more quickly and have higher success rates than those who did not have such an evaluation? Relevant practitioner, client, and outcome variables obviously would need to be taken into account. However, there are a number of complex issues and decisions that would need to be made related to defining financial efficacy, choice of instruments, and outcome measurements.

At the core of these issues is the issue of what defines a "cost" (see Vandenbos, 1993; Yates, 1994). Differing conceptualizations and definitions will result in potentially complementary, partial, or even conflicting cost estimates. *Financial efficacy* is often used as an umbrella term to describe the many facets of cost. There are also a number of far more specific terms that are listed in Figure 1 and defined here. Each of these conceptualizations have implications for designing research programs. The *operations cost* perspective refers to those costs that would usually appear in accounting ledgers: personnel, facilities, equipment, materials. The *social cost* refers not only to monetary costs, but to any additional costs as well. One of the primary considerations in calculating the social cost is to evaluate whether the resources used to provide a service resulted in the best overall benefit when compared with some other possible expenditure of resources. For example, would a set amount of funding be best spent on in-depth assessment of a few select clients or should a greater number of potential clients be served by using brief screening instruments? The *client costs* are those directly paid by the client and include monetary expenditures, as well as psychological costs such as the pain of confronting difficulties and time off work to receive the service. A further useful distinction is between *cost benefit*, which refers to the financial gain resulting from an expenditure, as opposed to *cost-effectiveness*, which refers to gains that cannot be easily expressed in monetary units (quality of life, functional status, wellness). Thus, cost-effectiveness generally tends to be the preferred definition used in mental health program evaluations. The *cost offset* of a service is defined as the reduction in utilization of one service as the result of an intervention in a different area. For example, the accurate detection and referral of substance abusers using a brief screening instrument might result in a reduction in their utilization of more costly medical-surgical services. Finally *cost containment* can be defined as more general efforts to reduce costs such as limiting assessment procedures to only a few specific tests or terminating psychotherapy at some optimal point in the treatment process. Such efforts might then need to be balanced against societal costs or possibly less cost offset due to lower detection and referral of specific types of clients. For example, Antonuccio, Thomas, and Danton (1997) compared the indirect and direct costs of cognitive versus psychopharmacological interventions for depression by calculating the following: direct patient/third party costs (i.e., provider charges, medication, lost wages, travel), direct community costs (i.e., reduced taxes due to lost wages), and indirect societal costs (i.e., lost productivity).

The wide variation in what might be considered a cost suggests a correspondingly large number of outcome variables. Cost benefits and cost offset suggest outcome variables that are most easily translated into monetary values. For example, accurate assessment might screen out those who would and those who would not benefit from a psychotherapy or rehabilitation program. Such identification could potentially prevent the recommendation of a client for unproductive treatment with a resulting savings (cost benefit). Similarly, early detection of somatizing patients might decrease time spent on needless medical-surgical treatments thereby realizing a cost offset. One potentially crucial function of assessment might be in treatment matching. Cost saving might then be realized due to quicker therapeutic response, less relapse, or less hospital days. Cost containment might be realized through accurately identifying patients who would benefit just as much in outpatient as in inpatient treatment. This would mean that needless inpatient referral would be less likely to occur due to fewer total days spent in the hospital. Cost-effectiveness variables might include higher quality of life, improved interpersonal relationships, quicker time in referring a client for optimal intervention, reduction in symptomatic distress, less physical illness, or improved quality of care.

A further issue is the time frame for the evaluation of financial efficacy. After three sessions, most clients are likely to report that they "feel better." Actual symptom change may take 10 or more sessions, social role functioning may take 25 sessions, and a change in work efficiency might take 100 or more sessions (Howard, Lueger, Maling, & Martinovich, 1993). Usually only short-term (under 12 months) costs and gains are considered, yet the greatest financial gains (i.e., greater work productivity) might occur several years after the assessment/intervention (see Figure 1). From a managed health care organization's perspective, the emphasis might be only with possible short-term gains because in the more distant future the client is likely to be part of another HMO.

Selection of instruments is a crucial cost consideration especially in cost containment efforts. Although many comprehensive test batteries clearly have been able to make accurate predictions, it also may be that simpler, briefer tests can make comparable predictions. Garb (1984, 1994, 1998), for example, reviewed evidence and concluded that the MMPI alone was generally found to be more accurate than a longer battery containing the MMPI, Rorschach, and Sentence Completion. In addition, the Bender Gestalt Test, which only takes 3 to 5 minutes to administer, has been found to detect the presence of organic impairment almost as accurately as the much longer and more comprehensive Halstead Reitan battery (Acker, 1990; Lacks & Newport, 1980). In contrast, other studies suggest that a comprehensive, multimethod assessment has advantages over single-test assessment in developing optimal treatment plans (Fennig et al., 1994) and accurate diagnoses (Perry, 1992). In general, few studies have been done investigating the advantages of brief, focused instruments compared with more comprehensive methods of assessment. Furthermore, comparisons of using different tests (brief versus comprehensive) across different studies are usually difficult to make because the types and characteristics of clients under study vary. This makes direct comparisons of cost/utility difficult. Thus, one agenda for future research would be to more clearly make these length versus accuracy/utility cost comparisons for various instruments.

A further test selection issue is whether assessment will be used for case management (where to refer, suicide risk, prognosis), treatment planning (which type of treatment would most benefit this particular client), monitoring progress, or evaluating outcome. A referral question requiring a complex differential diagnosis might be justified in using a comprehensive (and expensive) test battery. This particularly might be the case if major life decisions were the issue (e.g., competency, further involuntary hospitalization). In contrast, a routine assessment for an adjustment disorder used to establish a baseline,

monitor progress, and evaluate outcome might use a brief (10 minute) assessment instrument. For cost-effective treatment evaluation, tests should be selected that are standardized with good psychometric properties, are practical (easy to score and interpret), reduce progress notes by partially substituting for them, assess the degree of initial client severity, and relate to meaningful aspects of change (Burlingame, Lambert, Reisinger, Neff, & Mosier, 1995). Meaningful change includes level of symptomatic distress, interpersonal functioning (friendships, quality of life), and social role performance (work, leisure, family roles).

One consideration is the function of assessment. It can describe what happens (descriptive), why something happens (explanatory), and predict what happens if something is changed (predictive). The predictive aspect of assessment is generally of most concern in studies on financial efficacy. This means that assessment instruments should be most concerned with such areas as predicting response to specific types of treatment, functional independence, returning to work, level of functioning at work, and quality of interpersonal relationships. Psychometrically, this would mean that test-retest reliability and predictive validity would be crucial qualities to consider.

### Conclusion

There is currently clear potential for clinical assessment to demonstrate its financial efficacy regardless of how that term is considered (cost offset, cost-effectiveness, etc.). A number of both rational guidelines and research issues have been described. Crucial to any research efforts would be to establish links between the strength of the relationships, processes, and outcomes. This would include clearly defining what is meant by costs, closely linking this with relevant long- and short-term outcomes, the optimal selection of procedures, and agreeing on the purpose and function of assessment. The result would, it is hoped, be a body of research that would more precisely determine under which circumstances, with what tools, and for which problems would clinical assessment be of financial benefit. Such a body of literature would ensure the continued progress and vitality of clinical assessment within the context of managed health care.

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